

## Claims

1. A login authentication method of a user who uses a business system and a commercial service system, comprising the steps of:

5 sending a request for use of said commercial service system from a terminal that the user is using to said business system, when the user who logs in said business system uses said commercial service system, with respect to the user;

10 checking a commercial service use authority of the user, and returning selects one password from a password list created prior to authentication to said terminal, with respect to said business system that received the request of use;

15 sending the returned password to said commercial service system, with respect to said terminal; and

20 comparing the password with accounting information created prior to the authentication, permitting login when they match, and nullifying said used password, with respect to said commercial service system.

2. The login authentication method according to claim 1, wherein said business system generates said password list using a random number, sends said password list to said commercial service system, and creates accounting information.

25 3. The login authentication method according to claim

1, wherein said commercial service system generates said accounting information using a random number, sends said accounting information to said business system, and creates said password list.

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4. The login authentication method according to claim 1,

wherein said business system generates said password list using a numerical value to which an optional numerical value and a one-way function were applied sequentially, sends the applicable number of times of said one-way function and the numerical value of a sequentially applied final result to said commercial service system, and creates said accounting information, and

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when use of a commercial service system is requested from said terminal, said business system returns a password and the applicable number of times of said one-way function to said terminal, compares the result in which said one-way function was applied to the password sent from said terminal only for a part in which the applicable number of times of said one-way function to said password was subtracted from the applicable number of times of said final result, with the numerical value of said final result in said accounting information when login permission in said commercial service system is determined, and permits login if they match.

5. The login authentication method according to claim 4, wherein the numerical value of the sequentially applied result is retained when the login permission in said commercial service system is determined thereby to apply it to the result in which the numerical value was retained for the part of the applicable number of times of said one-way function of the retained result was subtracted from the applicable number of times of said one-way function of a determining password.

6. A login authentication program of a user who uses a business system and a commercial service system, comprising the steps of:

sending a request for use of said commercial service system from said terminal that the user is using to said business system when the user who logs in said business system uses said commercial service system;

checking a commercial service use authority, selecting a password from a password list created prior to authentication, and returning the password to said terminal with respect to said business system;

sending the returned password to said commercial service system with respect to said terminal; and

comparing the password with accounting information created prior to authentication, permitting login when they match,

and nullifying said used password with respect to said commercial service system.

7. The login authentication program according to claim 5 6, further comprising the step of allowing said business system to generate said password list using a random number, send said password list to said commercial service system, and create said accounting information.

10 8. The login authentication program according to claim 6, further comprising the step of allowing said commercial service system to generate said accounting information using a random number, send said accounting information to said business system, and create said password list.

15 9. The login authentication program according to claim 6, further comprising the steps of:

allowing said business system to generate said password list using a value to which an optional value and a one-way function are applied sequentially, send the applicable number of times 20 of said one-way function and a numerical value of the sequentially applied final result, and create said accounting information; and

allowing said business system to return a password and 25 the applicable number of times of said one-way function to said

terminal when use of a commercial service system is requested from said terminal, compare a result in which said one-way function was applied to the password sent from said terminal only for a part in which the applicable number of times of said one-way function for the password was subtracted from the applicable number of times of said final result, with the numerical value of said final result in said accounting information, and permit login if they match.

10. The login authentication program according to claim 9, further comprising the step of retaining the value of the sequentially applied result when the login permission in said commercial service system is determined thereby to apply it to the result in which the numerical value was retained for the part in which the number of times of said one-way function of the retained result was subtracted from the applicable number of times of said one-way function of a determining password.